

CLAIMS

- 1 1. A sheet metal bending brake comprising:
 - 2 a frame having a planar work support surface and at least two spaced
 - 3 frame members extending above said work support surface, each frame
 - 4 member having a throughbore such that said throughbores in said frame
 - 5 members are aligned with each other,
 - 6 at least two elongated pivot arms, each arm being pivotally secured at
 - 7 one end to said frame for movement toward and away from said work support
 - 8 surface, each pivot arm having a generally rectangular opening aligned with
 - 9 said frame member throughbores,
 - 10 a clamp bar secured to said pivot arms so that said clamp bar overlies
 - 11 said work support surface,
 - 12 a slide block longitudinally slidably mounted in each pivot arm
 - 13 opening, said slide block being constrained against movement in a direction
 - 14 generally perpendicular to said work support surface,
 - 15 wherein each slide block includes a trapezoidal opening with spaced
 - 16 apart and parallel top and bottom surfaces and outwardly flared side surfaces,
 - 17 an elongated shaft rotatably mounted in said frame member
 - 18 throughbores, said shaft extending through said trapezoidal openings,
 - 19 at least two eccentric cams secured to said shaft so that one cam is
 - 20 associated with and positioned within each trapezoidal opening, said cam being
 - 21 dimensioned so that each said cam contacts said outwardly flared side surfaces
 - 22 of its associated slide block,

23 whereby pivotal movement of said shaft displaces said clamp bar in a
24 direction generally perpendicular to said work support surface.

1 2. The invention as defined in claim 1 wherein each said cam
2 contacts said top and bottom surfaces of its associated slide block.

1 3. The invention as defined in claim 1 and comprising a bending
2 hinge pivotally mounted to said frame.

1 4. The invention as defined in claim 1 and comprising an
2 elongated clamp bar secured to a second end of each said pivot arm so that said
3 clamp bar is parallel to and spaced away from said work support surface.

1 5. The invention as defined in claim 1 and comprising a radially
2 outwardly extending handle secured to said shaft.

1 6. A clamp assembly comprising:
2 a frame having a planar work support surface and at least two spaced
3 frame members extending above said work support surface, each frame
4 member having a throughbore such that said throughbores in said frame
5 members are aligned with each other,
6 at least two of elongated pivot arms, each arm being pivotally secured
7 at one end to said frame for movement toward and away from said work

8 support surface, each pivot arm having a generally rectangular opening aligned
9 with said frame member throughbores,

10 a clamp bar secured to said pivot arms so that said clamp bar overlies
11 the work support surface,

12 a slide block longitudinally slidably mounted in each pivot arm
13 opening, said slide block being constrained against movement in a direction
14 generally perpendicular to said work support surface,

15 wherein each slide block includes a trapezoidal opening with spaced
16 apart and parallel top and bottom surfaces and outwardly flared side surfaces,

17 an elongated shaft rotatably mounted in said frame member
18 throughbores, said shaft extending through said trapezoidal openings,

19 at least two eccentric cams secured to said shaft so that one cam is
20 associated with and positioned within each trapezoidal opening, said cam being
21 dimensioned so that each said cam contacts said outwardly flared side surfaces
22 of its associated slide block,

23 whereby pivotal movement of said shaft displaces said clamp bar in a
24 direction generally perpendicular to said work surface.

1 7. A sheet metal bending brake comprising:

2 a frame having a planar work support surface and at least two spaced
3 frame members extending above said work support surface, each frame
4 member having a trapezoidal throughbore such that said trapezoidal
5 throughbores in said frame members are aligned with each other, wherein each

6 trapezoidal opening includes spaced apart and parallel top and bottom surfaces
7 and inwardly flared side surfaces,
8 a cam rotatably mounted in each trapezoidal opening, said cam having
9 an outer cylindrical surface,
10 a shaft secured to each cam,
11 at least two elongated pivot arms, each arm being pivotally secured at
12 one end to said frame for movement toward and away from said work support
13 surface,
14 a clamp bar secured to said pivot arms so that said clamp bar overlies
15 said work support surface,
16 at least two links, one link being pivotally connected at one end to said
17 cam at a position radially spaced from the axis of said cam and pivotally
18 connected at a second end to said pivot arm,
19 whereby pivotal movement of said shaft displaces said clamp bar in a
20 direction generally perpendicular to said work support surface.

1 8. The invention as defined in claim 7 wherein said one end of
2 each said link is pivotally connected to said cam about an axis coaxial with said
3 shaft.